

Work Plan for Fiscal Year 2003

I Program Title. Spawning Gravel Restoration Program, CVPIA Section 3406(b)(13).

II Responsible Entities.

	Agency	Staff Name	Role
Lead	USBR	Ken Lentz	Program Manager
Co-Lead	FWS	Andy Hamilton	FWS Coordinator

III. Program Objectives for FY 2003. The program objectives are enumerated below. The source document for these objectives is the Annual Work Plan (FY02) dated March 11, 2002, which in turn was based on the text in the CVPIA legislation. The program objectives have been cross-referenced against the actions the program will undertake in FY03 in Section VI below.

- A Increase the availability of spawning gravel and rearing habitat for Sacramento River Basin chinook salmon and steelhead trout. The principal effort will be to replenish spawning gravel in the reach of the mainstem Upper Sacramento River from Keswick Dam downstream to Red Bluff Diversion Dam.
- B Increase the availability of spawning gravel and rearing habitat for American River Basin chinook salmon and steelhead trout. The principal effort will be to monitor the replenishment of spawning gravel in the reach of the American River downstream from Nimbus Dam.
- C Increase the availability of spawning gravel and rearing habitat for Stanislaus River chinook salmon and steelhead trout. The principal effort will be to replenish spawning gravel in the reach of the Stanislaus River downstream from Goodwin Dam and monitor those placements.

IV. Status of the Program.

Program emphasis to date has been on the placement of gravel in or adjacent to the river channels in locations that would enhance salmon and steelhead spawning and/or rearing. Due to limited availability of river access, few sites have been utilized for gravel placement. Gravel has been placed adjacent to the river channel at the Upper Sacramento River sites, directly in the river channel in the Stanislaus River, while the river substrate in the American River has been ripped where clay lenses underlaid riffles and gravels were subsequently placed.

- A. Upper Sacramento River. Beginning in 1997, salmonid spawning gravel has been placed twice on the right bank immediately downriver from Keswick Dam, twice on the right bank immediately downstream from the confluence with Salt Creek, and once on the left bank on the Tobiasson property toward the southern extent of the

Redding city limits. Subsequent high river flows have dispersed the gravel downriver. Gravel has been imbedded with electronic radio transmitters which allows monitoring of the downriver movement. The transmitters have a four-year life expectancy which will allow four years of monitoring.

B. American River. The substrate at three riffles was manipulated and salmonid spawning gravel was subsequently placed at the sites in 1999 according to specifications. Salmon have been visually observed spawning on the restored habitat. Monitoring is underway to determine the usage by salmonids of the gravel placement.

C. Stanislaus River. Beginning in 1997, salmonid spawning gravel has been placed in the river at three different sites immediately downriver from Goodwin Dam. On two occasions, helicopters were used to deposit the gravel directly in the channel. This work was supplemented with gravel delivered by truck to areas adjacent to the channel whereupon it was pushed into the river channel. Salmon have been visually observed spawning on the restored habitat. Monitoring is underway to determine the usage by salmonids of the gravel placement.

V. FY 2002 Accomplishments.

A. Upper Sacramento River. Fifteen thousand tons of salmon spawning gravel was placed on the right bank of the Sacramento River immediately downriver from the confluence with Salt Creek.

B. Stanislaus River. Approximately 488 tons of spawning gravel was placed in the Stanislaus River immediately downriver from Goodwin Dam on July 24, 2001. Streambed cross-section elevations were made pre- and post-gravel placement. An underwater snorkel survey of salmonids observed in the vicinity of gravel placement sites was begun. A monitoring program was begun consisting of an underwater snorkel survey of salmonids observed in the vicinity of gravel placement sites.

C. American River. A monitoring program was begun consisting of seine and rotary screw trap capture of juvenile salmonids in the vicinity of the gravel placement sites.

VI. Tasks, Costs, Schedules and Deliverables.

A. Narrative Explanation of Tasks.

1. Program Management. U.S. Bureau of Reclamation (Reclamation) is responsible for the overall lead in program management, but the program direction is coordinated with the U.S. Fish and Wildlife Service (Service) agency lead. Program tasks are assigned to the entities with particular expertise and capability to accomplish the assignments, as identified below.
- 1.1 Program Management. The Reclamation Program Manager (PM) is primarily responsible for development of the work plans, program budget,

and all associated management-directed documents. The PM is responsible at the program level for the completion of all necessary environmental compliance documentation, permits, etc., although individual activity managers (i.e. contracting officer's technical representatives) are responsible for obtaining the necessary documentation for their respective activities. The PM will actively seek alternative external funding in support of the program, and will coordinate program activities with external non-CVPIA work.

- 2 Program Management (Service). The Service agency lead will work closely with the PM in developing the program, and will be the primary point of contact with Reclamation staff involved in program activities. When so directed, the Reclamation agency lead will act as the PM in the absence of the manager.
- 3 Technical Support (Reclamation). Reclamation Regional Office and Area Office staff will provide the necessary technical support as assigned to accomplish program activities. This involves engineering, biological and environmental compliance personnel.
- 4 Contracting Support (Reclamation). Reclamation contracting staff will provide the necessary support to complete all necessary contracts and associated agreements required to accomplish program activities.
 Gravel Replenishment in the Upper Sacramento River. Reclamation Activity Manager will assess the need for gravel placement, including the amount and the sites at which salmonid spawning gravel would be placed. The manager will be responsible for contract management and completion of all environmental compliance documentation associated with placement of the gravel, including necessary coordination with all regulatory entities.
 Gravel Monitoring in the American River. The PM/Service agency lead will coordinate the monitoring of salmonid spawning gravel in the American River with designated staff from the California Department of Fish and Game (CDFG). The PM will coordinate the designation of the contracting oversight lead within Reclamation between the relevant Regional Office and Area Office staffs, and will ensure that the necessary environmental compliance activities are performed. The principal task to be performed in FY03 involves monitoring the salmonid spawning habitat previously constructed in the American River with CVPIA 3406(b)(13) funds. A report will be prepared describing the results of the monitoring activity.
 Gravel Replenishment in the Stanislaus River. The PM/Service agency lead will coordinate salmonid spawning gravel placement activities in the Stanislaus River downriver from Goodwin Dam with designated staff from CDFG and Service. The PM will coordinate the completion of the contracting process with Regional Office contracting staff. The two principal tasks to be performed in FY03 are described in the following text.
5. Land Acquisition. Attempts in FY02 to purchase a gravel bar approximately 50 acres in size in the vicinity of Two-Mile Bar were unsuccessful. This effort will be re-evaluated and a decision whether to proceed will be made. If feasible, the purchase will be made jointly with

funds from the National Fish and Wildlife Foundation and held in fee title by the Corps of Engineers. This land purchase will provide a long-term salmonid spawning gravel reserve adjacent to a reach of the river that receives sexually mature adult salmon but which lacks suitable spawning habitat.

6. Gravel Placement. Sites in the Stanislaus River will be selected for gravel placement based on the results of monitoring previously conducted and on whether the purchase of land in the vicinity of Two-Mile Bar is accomplished. The criteria for gravel cleaning and sorting, specific locations and timing of placement-related activities will be determined as per criteria approved by the Service and CDFG biologists.

Additional Funding Needs.

Tehama-Colusa Canal Dual Purpose Canal and Spawning Channel Gravel. Process salmon spawning gravel previously removed from the Tehama-Colusa Canal Dual Purpose Canal and Spawning Channel for utilization in the Sacramento River. Reclamation Activity Manager will be responsible for the cleaning and sorting of the salmon spawning gravel at the gravel staging area. The gravel will be processed as per criteria that have been approved by CDFG and Service biologists. The processed gravel will be suitable for immediate placement in the river.

B. Schedule and Deliverables.

#	Task	Dates		Deliverable
		Start	Completed	
1	Program Management	10/01/02	09/30/03	Revise FY02 Annual Work Plan. Draft FY03 Annual Work Plan. All contracts/ agreements in place for activities in the Annual Work Plan. All activities in FY02 Annual Work Plan completed.
1.1	Program Management (USBR)	10/01/02	09/30/03	Revise FY02 Annual Work Plan. Draft FY03 Annual Work Plan. All contracts/ agreements in place for activities in the Annual Work Plan. All activities in FY02 Annual Work Plan completed.
1.2	Program Management (FWS)	10/01/02	09/30/03	Coordinate activities within FWS and with Program Manager.
1.3	Technical Support (USBR)	10/01/02	09/30/03	All assigned technical activities completed as scheduled.
1.4	Contracting Support (USBR)	10/01/02	09/30/03	All assigned contracting/agreement activities completed as scheduled.
2	Sacramento River Gravel Replenishment	10/01/02	09/30/03	All salmonid spawning gravel placed as scheduled.
3	American River Gravel Monitoring	10/01/02	09/30/03	All salmonid spawning habitat monitoring work completed as scheduled. Report of the work will be prepared.
4	Stanislaus River Gravel Replenishment	10/01/02	09/30/03	All salmonid spawning habitat monitoring work completed as scheduled.
4.1	Land Acquisition	10/01/02	02/28/03	All salmonid spawning habitat purchased as scheduled
4.2	Gravel Placement	10/01/02	03/31/03	All salmonid spawning gravel placed as scheduled

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Schedule and Deliverables - Additional Funding Needs.

#	Task	Dates		Deliverable
		Start	Completed	
5	Tehama-Colusa Canal Dual Purpose Canal and Spawning Channel Spawning Gravel Processing	10/01/02	09/30/03	Process all removed salmon spawning gravel from the Tehama-Colusa Canal facilities to a condition suitable for placement.

C. Summary of Program Costs and Funding Sources.

#	Task	Total Cost	Prop 204	RF
1	Program Management	\$70,000		\$70,000
1.1	Program Management (USBR)	\$20,000		\$20,000
1.2	Program Management (FWS)	\$0		\$0
1.3	Technical Support (USBR)	\$45,000		\$45,000
1.4	Contracting Support (USBR)	\$5,000		\$5,000
2	Sacramento River Gravel Replenishment	\$230,000		\$230,000
3	American River Gravel Monitoring	\$50,000	\$50,000	
4	Stanislaus River Gravel Replenishment	\$400,000	\$200,000	\$200,000
4.1	Land Acquisition	\$200,000	\$200,000	
4.2	Gravel Placement	\$200,000		\$200,000
	Total Program Budget	\$750,000	\$250,000	\$500,000

Program Costs and Funding Sources - Additional Funding Needs

#	Task	Total Cost	RF
5	Tehama-Colusa Canal Dual Purpose Canal and Spawning channel Spawning Gravel Processing	\$760,000	\$760,000
Total Program Budget		\$760,000	\$760,000

D. CVPI A Program Budget.

#	Task	FTE	Direct Salary and Benefits Costs	Contracts Costs	Miscellaneous Costs	Administrative Costs	Total Costs
1	Program Management	.25	\$38,000	\$0	\$0	\$32,000	\$70,000
1.1	Program Management (USBR)	0.0	\$11,000	\$0	\$0	\$9,000	\$20,000
1.2	Program Management (FWS)	0.0	\$0	\$0	\$0	\$0	\$0
1.3	Technical Support (USBR)	0.0	\$24,000	\$0	\$0	\$21,000	\$45,000
1.4	Contracting Support (USBR)	0.0	\$3,000	\$0	\$0	\$2,000	\$5,000
2	Sacramento River Gravel Replenishment	0.0	\$0	\$230,000	\$0	\$0	\$230,000
3	American River Gravel Monitoring	0.0	\$0	\$50,000	\$0	\$0	\$50,000
4	Stanislaus River Gravel Replenishment	0.0	\$0	\$400,000	\$0	\$0	\$400,000
4.1	Land Acquisition	0.0	\$0	\$200,000	\$0	\$0	\$200,000
4.2	Gravel Placement	0.0	\$0	\$200,000	\$0	\$0	\$200,000
	Total by Category	.25	\$38,000	\$680,000	\$0	\$32,000	\$750,000

CVPI A Program Budget - Additional Funding Needs.

#	Task	FTE	Direct Salary and Benefits Costs	Contracts Costs	Miscellaneous Costs	Administrative Costs	Total Costs
5	Tehama-Colusa Canal Dual Purpose Canal and Spawning Channel Spawning Gravel Acquisition	0.0	\$0	\$750,000	\$0	\$10,000	\$
	Total by Category	0.0	\$0	\$750,000	\$0	\$10,000	\$

VII. Future Years Commitments/Actions.

Need to transport the gravel removed and processed from the Tehama-Colusa Canal facilities to salmonid spawning/rearing habitat. The total volume of gravel in the canal has been estimated at 150,000 tons. The estimates of the available supply and the moving/processing costs need to be refined.

The curtailment of gravel recruitment by mainstem river dams and the lack of suitable alternative supply of gravel requires continual import of gravel and/or maintenance of suitable spawning and rearing habitat. This requirement is one which will remain as long as the supply of salmonid spawning gravel is curtailed.